



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/510,691	10/08/2004	Bruce S Hall	T3572-908375US01	4047
181 7590 12/27/2006 MILES & STOCKBRIDGE PC 1751 PINNACLE DRIVE SUITE 500 MCLEAN, VA 22102-3833			EXAMINER A, PHI DIEU TRAN	
			ART UNIT 3637	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		12/27/2006	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

**Application No.**

10/510,691

**Applicant(s)**

HALL, BRUCE S

**Examiner**

Phi D. A

**Art Unit**

3637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 and 19-55 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 and 19-55 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/21/06</u> .  | 6) <input type="checkbox"/> Other: _____                          |

Art Unit: 3637

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

1. **PRODUCT BY PROCESS CLAIM:**

“ The subject matter present is regarded as a product by process claim in which a product is introduced by the method in which it is made. It is the general practice of this office to examine the final product described regardless of the method provided by the applicant.”

The above office policy applies to the limitation “ crushed” of claims 1, 15, 16, 19-20.

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 37 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The invention allows for the panel to resist shrapnel, not a panel containing shrapnel. Also, applicant's remark does not help in clearing up the claim because the language “ panel contains shrapnel between the elastomeric panel and the surface of the structure” appears to claim the panel contains shrapnel. The panel is the elastomeric panel. It is thus also unclear how the shrapnel can be both in the panel and outside of the panel to be between the panel and the structure.

The claim is examined as best understood.

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

Art Unit: 3637

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 35 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 35 "the channel is fastened to an interior surface of the structure" is indefinite as it is confusing the scope of the claim. The claim is to a system for improving penetration resistance of a structure; the relationship between the system and the structure thus must be claimed as subcombination, not combination.

Although applicant states that a correction is made to the claim to put the language of adapted to therebetween, no such language is added to the claim. The above rejection is thus maintained.

3. PRODUCT BY PROCESS CLAIM:

"The subject matter present is regarded as a product by process claim in which a product is introduced by the method in which it is made. It is the general practice of this office to examine the final product described regardless of the method provided by the applicant."

The above office policy applies to the limitations of "cured", "sprayed" of claims 14, 27, 30-31, 38, and 52-53.

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2, 6-7, 12, 14-15, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Diamond (6898907, previously 2002/0184841) in view of Diamond (6289642).

Diamond (...907, figure 14) shows a method of providing a blast resistance of a structure comprising spraying a layer of elastomer material (920A or 920B only, not both layers 920B and 920A) to form a blast resistant panel of a predetermine thickness in the range of about 100 mil to about 250 mil ( the range is disclosed by the reference's range of (.5-12) inch thick in paragraph 53 for the material divided by half as the thickness is to layer 920A or 920B only, not both layers), once cured, securing the panel to a surface of the structure (40), the elastomer material being polyurethane (paragraph 51), the panel is flexible, the spraying said layer of elastomeric material comprising spraying (nozzle 38) the layer directly onto a molding surface, fastener elements (247, 250, 865, 1372) for securing the cured layer to a surface of a structure, the panel having a thickness of about 180mil (within the disclosed range of (0.5-12inch)/2).

Diamond (...907) does not show the blast resistant panel extending from at least two opposing edges of the surface of the structure.

Diamond (907) further discloses that the panel (816) can be cut to fit various shapes and sizes of windows.

Diamond (...642) figure (3) shows a panel (18) extending from at least tow opposing edges of the surface of the structure (14).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Diamond (..907)'s panel to show the blast resistant panel extending from at least two opposing edges of the surface of the structure because it enables the protection of the

Art Unit: 3637

window pane beyond the edges of frame member (16) and thus prevents any debris from getting at the glass pane through the edge of the frame (16) as taught by Diamond (...642).

3. Claims 3, 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Diamond (6898907, previously 2002/0184841) in view of Diamond (6289642) as applied to claim 1 above and further in view of Fyfe (6806212).

Diamond as modified shows all the claimed limitations except for the elastomeric material being a polyurea material.

Fyfe discloses polyurea for forming a coating for reinforcing structure (col 3 lines 25-48).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Diamond's modified structure to show the elastomeric material being a polyurea material because polyurea would provide a good coating for reinforcing structures as taught by Fyfe.

Diamond as modified shows all the claimed limitations. The claimed method steps of improving blast resistant to a structure would have been the obvious method steps of protecting a structure with Diamond's modified structure.

4. Claims 4-5, 9-10, 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Diamond (6898907, previously 2002/0184841) in view of Diamond (6289642) as applied to claim 1 above and further in view of Fyfe (6806212).

Diamond as modified shows all the claimed limitations except for the elastomeric material having a percent elongation at break in a range of about 100-800% and having a tensile strength greater than 2000psi, the range being of about 400-800%.

Fyfe further discloses preferred sprayed polyurethane for having a percent elongation at break in a range of about 600-700%, and the tensile strength of about 4000psi.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Diamond's modified structure to show the elastomeric material being having a percent elongation at break in a range of about 100-800% and having a tensile strength greater than 2000psi, the range being of about 400-800% because it would allow for good curing time and no release of volatile organic solvents mix as taught by Fyfe.

Diamond as modified shows all the claimed limitations. The claimed method steps of improving blast resistant to a structure would have been the obvious method steps of protecting a structure with Diamond's modified structure.

5. Claims 11, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Diamond (6898907, previously 2002/0184841) in view of Diamond (6289642) as applied to claim 1 or 6 above and further in view of Makami et al (4478895).

Diamond as modified shows all the claimed limitations except for the step of spraying the layer of elastomeric material comprising spraying the material onto a fabric reinforcement layer, the step of spraying the material onto a reinforcement layer positioned on a molding surface.

Makami et al discloses the step of spraying layers of elastomers on a fabric reinforcement layer (1).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Diamond's modified structure to show the step of spraying the layer of elastomeric material comprising spraying the material onto a fabric reinforcement layer, the step of spraying the material onto a reinforcement layer positioned on a molding surface because

Art Unit: 3637

having a fabric layer within layers of elastomer would impart strength dimensional stability to the structure as taught by Makami et al (col 2 line 34).

Diamond as modified shows all the claimed limitations. The claimed method steps of improving blast resistant to a structure would have been the obvious method steps of protecting a structure with Diamond's modified structure.

6. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Diamond (6898907, previously 2002/0184841) in view of Diamond (6289642) as applied to claim 14 above and further in view of Fyfe (6806212).

Diamond as modified shows all the claimed limitations except for the elastomeric material being a polyurea material.

Fyfe discloses polyurea for forming a coating for reinforcing structure (col 3 lines 25-48).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Diamond's modified structure to show the elastomeric material being a polyurea material because polyurea would provide a good coating for reinforcing structures as taught by Fyfe.

7. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Diamond (6898907, previously 2002/0184841) in view of Diamond (6289642) as applied to claim 14 above and further in view of Makami et al (4478895).

Diamond as modified shows all the claimed limitations except for the panel further comprising a fabric reinforcing layer.

Makami et al discloses the using fabric(1) to reinforce layers of elastomers.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Diamond's modified structure to show the panel further comprising a fabric reinforcing layer because having a fabric layer within layers of elastomer would impart strength dimensional stability to the structure as taught by Makami et al (col 2 line 34).

8. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Diamond (6898907, previously 2002/0184841), Diamond (6289642) and Fyfe (6806212) as applied to claim 16 above and further in view of Makami et al (4478895).

Diamond as modified shows all the claimed limitations except for the panel further comprising a fabric reinforcing layer.

Makami et al discloses the using fabric(1) to reinforce layers of elastomers.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Diamond's modified structure to show the panel further comprising a fabric reinforcing layer because having a fabric layer within layers of elastomer would impart strength dimensional stability to the structure as taught by Makami et al (col 2 line 34).

9. Claims 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Diamond (6898907, previously 2002/0184841), Diamond (6289642), Fyfe (6806212) and Makami et al as applied to claim 24 above and further in view of Benedict et al (5681612).

Diamond as modified shows all the claimed limitations except for the fabric reinforcing layer being of aramid fibers or polyester fibers.

Benedict et al discloses fabric reinforcing layer being of aramid fibers or polyester fibers.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Diamond's modified structure to show the fabric reinforcing layer being of

Art Unit: 3637

aramid fibers or polyester fibers because these fabric are readily available and provides good strength for the composite structure as taught by Benedict et al.

10. Claims 14, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Santos (5347775) in view of Diamond (6898907).

Santos shows a blast resistant panel comprising a panel (40) having a predetermined thickness, fastener elements (56, 56') for securing the panel to a surface of a structure (the wall) so that the panel extends from at least two opposing edges of the surface of the structure, a channel member (20) secured to the panel around at least a portion of the peripheral thereof.

Santos does not show the panel being made of elastomeric material having a thickness in the range of about 100mil to about 250 mil.

Diamond shows a panel (920A or 920B only) being made of elastomeric material having a thickness in the range of about 100mil to about 250 mil ((.5-12 inch)/2).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Santos' structure to show the panel being made of elastomeric material having a thickness in the range of about 100mil to about 250 mil as taught by Diamond because the thickness and material would enable the panel to withstand and protect a window structure against stormy weather.

11. Claims 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haas (6269597) in view of Madden Jr (5811719) and Diamond (6898907).

Haas shows a system comprising a panel (13) constructed of a fiberglass loaded plastic, the panel having a steel channel (6) fastened around a peripheral thereof, a plurality of fasteners adapted to fasten the channel and the panel to a wall of a structure, a pair of opposing sides

Art Unit: 3637

depending from the opposite ends of a bottom portion to form a substantially U-shaped channel, a U-shaped steel channel along a top portion, a bottom portion, a first side portion of the periphery (figure 1), the panel being cured (inherently so as it is of plastic), the channel is fastened to an interior surface of the structure (inherently so as no structure is claimed and no relationship between the structure and the system is claimed with respect to position), the panel containing shrapnel between the panel and the surface of the structure,

Haas does not show the plastic being a flexible blast resistant elastomeric material having a predetermined thickness in a range between about 100 mil and 250 mil, the fiber being a fabric reinforcing layer.

Diamond shows a flexible panel having a thickness in the range of (.5-12 inch)/2 (including the range of 100 mil to 250mil) to protect the structure against storm.

Madden Jr. discloses a protective shield having layers of fibrous material held together by flexible resins (col 6 lines 2-3).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Haas's structure to show the plastic being an elastomeric material, the fiber being a fabric reinforcing layer, the material having a predetermined thickness in a range between about 100 mil and 250 mil because having elastomeric material surrounding fiber layers to form a protective device would enable the device to withstand tremendous impact forces as taught by Madden Jr, and having the thickness of the panel in the range of 100-250 mil as taught by Diamond would provide proper protection for the structure against stormy weather.

Art Unit: 3637

12. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Haas (6269597) in view of Madden Jr (5811719) and Diamond (6898907) as applied to claim 27 above and further in view of White (6907811)

Haas as modified shows all the claimed limitations except for a Z-shaped steel channel along a second side portion of the periphery opposite the first side portion and between the top and bottom side portion, the Z-shaped steel channel to be fastened to a first and second of the one or more panels.

White (figure 5) discloses a Z-shaped channel along a second side portion of the periphery opposite the first side portion and between the top and bottom side portion, the Z-shaped steel channel to be fastened to a first and second of the one or more panels.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Haas's structure to show a Z-shaped steel channel along a second side portion of the periphery opposite the first side portion and between the top and bottom side portion, the Z-shaped steel channel to be fastened to a first and second of the one or more panels because it would allow for the supporting of multiple panels to span and cover a large area as taught by White.

13. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Haas (6269597) in view of Diamond (6898907).

Haas shows a system comprising a panel (13) constructed of a fiberglass loaded plastic, the panel having a steel channel (6) fastened around a peripheral thereof, a plurality of fasteners adapted to fasten the channel and the panel to a wall of a structure, the panel sized to extend across and cover an area between opposing sides of the surface of the structure (the limitation

Art Unit: 3637

does not limit the covering only to the area therebetween), the channel is adapted to fasten to an interior surface of the structure (inherently capable of doing so).

Haas does not show the plastic being a flexible blast resistant elastomeric material.

Diamond shows a flexible blast resistant elastomer panel to protect the structure against storm.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Haas's structure to show the plastic being a flexible blast resistant elastomeric material because it would provide proper protection for the structure against stormy weather as taught by Diamond.

14. Claims 31-35, 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haas (6269597) in view of Diamond (6898907) as applied to claim 30 above, and further in view of Madden Jr (5811719).

Haas as modified shows all the claimed limitations except for the panel comprising a fabric reinforcing layer.

Madden Jr. discloses a protective shield having layers of fibrous material held together by flexible resins (col 6 lines 2-3).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Haas's modified structure to show the panel having a fabric reinforcing layer because having elastomeric material surrounding fiber layers to form a protective device would enable the device to withstand tremendous impact forces as taught by Madden Jr.

Art Unit: 3637

Per claims 32-34, Haas as modified shows the fabric layer being embedded in the elastomeric material, the fabric being of aramid fiber and the fiber being open grid pattern (Madden col 5 line 66).

Per claim 37, Haas as modified shows shrapnel (a shell fragment → the material of the plastic and fiber inherently can be shell fragment as it is unclear yet what constitute applicant's shrapnel).

15. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Haas (6269597) in view of Diamond (6898907).

Haas as modified shows all the claimed limitations except for the panel having a thickness in the range of about 100-250mil.

Diamond further shows a flexible panel having a thickness in the range of (.5-12 inch)/2 (including the range of 100 mil to 250mil) to protect the structure against storm.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Haas's modified structure to show the panel having a thickness in the range of about 100-250mil as taught by Diamond because having the thickness of the panel in the range of 100-250 mil would provide proper protection for the structure against stormy weather.

16. Claim 38-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haas (6269597) in view of Diamond as applied to claim 30 above and further in view of Fyfe (6806212).

Haas as modified shows all the claimed limitations except for the elastomeric material having a percent elongation at break in a range of about 100-800% and having a tensile strength greater than 2000psi, the range being of about 400-800%.

Art Unit: 3637

Fyfe further discloses preferred sprayed polyurethane for having a percent elongation at break in a range of about 600-700%, and the tensile strength of about 4000psi.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Haas's modified structure to show the elastomeric material being having a percent elongation at break in a range of about 100-800% and having a tensile strength greater than 2000psi, the range being of about 400-800%. because it would allow for good curing time and no release of volatile organic solvents mix as taught by Fyfe.

Per claim 41, Haas as modified shows all the claimed limitations except for the elastomeric material being a polyurea material.

Fyfe further discloses polyurea for forming a coating for reinforcing structure (col 3 lines 25-48).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Haas's modified structure to show the elastomeric material being a polyurea material because polyurea would provide a good coating for reinforcing structures as taught by Fyfe.

17. Claims 42-45, 47-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hartzell et al (3522140).

Hartzell et al shows a penetration resistant panel, the panel having a reinforcing fabric material( asbestos fiber), spraying a first layer of an elastomeric material (cellular foam layer, col 2 lines 9-25) to a first thickness onto a first portion of the fabric material, spraying a second layer (organic coating) of the elastomeric material to a second thickness onto the second portion of the fabric material, finishing around a periphery of the blast resistant panel (inherently so), removing

Art Unit: 3637

the panel from a manufacturing surface, the fabric being substantially planar, the fabric comprising a substantially open grid pattern, the panel is blast resistant (inherently so), the step of allowing panel to cure, the fabric material and the second layer of the elastomeric material being in the range of about 100 mil to about 250 mil(col 4 discloses the foam layer being from 1/32 inch to about 4 inches, the summation of the thicknesses within the disclosed range shown in figures 1-3 thus satisfies the claimed limitation).

Hartzell et al does not show the step of positioning the fabric material against a molding surface, the step of slipping the fabric material with the first layer of the elastomeric material over to expose a second portion of the fabric, the combined thickness of the first layer of the elastomeric material.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Hartzell et al's steps of constructing the panel to show the steps of positioning the fabric material against a molding surface, the step of slipping the fabric material with the first layer of the elastomeric material over to expose a second portion of the fabric because positioning the fabric material onto a molding surface would enable the easy spraying of a coating on the surface of the fabric material without the material moving around, and flipping the cover fabric material over would allow for the easy spraying of the other side of the fabric material.

Per claims 44-45, Hartzell et al as modified shows the step of removing the panel from the molding surface, the step of flipping the fabric material with the first layer over on the molding surface to expose the second portion of the fabric.

Art Unit: 3637

18. Claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hartzell et al (3522140).

Hartzell et al as modified shows all the claimed limitations except for the elastomeric material of the first and second layer being of polyurea, polysiloxane, polyurethane, and polyurea/polyurethane hybrid.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Hartzell et al's modified structure to show the elastomeric material of the first and second layer being of polyurea, polysiloxane, polyurethane, and polyurea/polyurethane hybrid because polyurethane is a well known insulating elastomer for forming insulating layers for panel, and having polyurethane forming layers on both sides of the fabric would enable the formation of a strong and insulating panel.

19. Claim 51 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hartzell et al (3522140).

Hartzell et al as modified shows all the claimed limitations except for the step of securing the panel to a surface of a structure.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Hartzell et al's modified structure to show the step of securing the panel to a surface of a structure because securing a panel to a surface of a structure would enable the mounting of the panel to a surface of a structure and is well known in the art.

20. Claims 52, 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haas (6269597) in view of Madden Jr (5811719) and Fyfe (6806212).

Art Unit: 3637

Haas shows a system comprising a blast resistant panel (13, inherently so as the panel would resistant projectile going through) constructed of a fiberglass loaded plastic, the panel having a U-shaped steel channel (6) fastened around a peripheral thereof, a plurality of fasteners adapted to fasten the channel and the panel to a wall of a structure, a pair of opposing sides depending from the opposite ends of a bottom portion to form a substantially U-shaped channel, the panel being cured (inherently so as it is of plastic).

Haas does not show the plastic being an elastomeric material, the fiber being a fabric reinforcing layer, the panel having a thickness of about 100-250 mil, a percent elongation at break in a range of about 400-800% and a tensile strength of about 2000psi or greater, the fabric layer being substantially planar and including warp and fill yarns defining an open grid pattern with openings of up to about 0.5 inch by 0.25 inch and a tensile strength of about 1200psi by 1200psi.

Madden Jr. discloses a protective shield having layers of fibrous material held together by flexible resins (col 6 lines 2-3), the fiber layer being open grid pattern.

Fyfe discloses preferred sprayed polyurethane for having a percent elongation at break in a range of about 600-700%, and the tensile strength of about 4000psi.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Haas's structure to show the plastic being an elastomeric material, the fiber being a fabric reinforcing layer, the panel having a thickness of about 100-250 mil, a percent elongation at break in a range of about 400-800% and a tensile strength of about 2000psi or greater, the fabric layer being substantially planar and including warp and fill yarns defining an open grid pattern with openings of up to about 0.5 inch by 0.25 inch and a tensile strength of

Art Unit: 3637

about 1200psi by 1200psi because having elastomeric material surrounding fiber layers to form a protective device would enable the device to withstand tremendous impact forces as taught by Madden Jr., the panel having the percent elongation at break in a range of about 400-800% and a tensile strength of about 2000psi or greater would allow for good curing time and no release of volatile organic solvents mix as taught by Fyfe, panel having a thickness in the range of about 100-250mil would increase the protective strength of the cover, and having the fiber defining an open grid pattern with opening of up to about 0.5 inch by 0.25 inch would allow for easy adhesion and bonding of the elastomer to the fabric; and having a fiber with tension strength of 1200 would enable the formation of a strong reinforcing panel.

21. Claim 53 is rejected under 35 U.S.C. 103(a) as being unpatentable over Haas (6269597) in view of Madden Jr (5811719) and Fyfe (6806212) as applied to claim 52 above, and further in view of Young (4562666).

Haas as modified shows all the claimed limitations except for the fastener elements passing through the steel channel system and the periphery of the cured, blast resistant panel.

Young discloses fasteners (14) passing through both a channel system (17) and the periphery of a panel (10) to securely mount the panel and the channel system fixedly in place.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Haas's modified structure to show the fastener elements passing through the steel channel system and the periphery of the cured, blast resistant panel because it would enable the secure fastened in place of the channel system and the panel as taught by Young.

22. Claim 54 is rejected under 35 U.S.C. 103(a) as being unpatentable over Haas (6269597) in view of Madden Jr (5811719) and Fyfe (6806212).

Haas as modified shows all the claimed limitations except for the elastomeric material being a polyurea material.

Fyfe further discloses polyurea for forming a coating for reinforcing structure (col 3 lines 25-48).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Haas's modified structure to show the elastomeric material being a polyurea material because polyurea would provide a good coating for reinforcing structures as taught by Fyfe.

***Response to Arguments***

***The arguments of 7/27/06 is repeated below as applicant has not presented new arguments for the claims.***

23. Applicant's arguments with respect to claims 1-17, 19-51, 53 have been considered but are moot in view of the new ground(s) of rejection.

24. Applicant's arguments filed 7/27/06 to claims 52, 54-55 have been fully considered but they are not persuasive.

With respect to applicant's argument that Haas as modified does not show the limitations as claimed, examiner respectfully sets forth the following. First of all, with respect to a cured, blast resistant panel of a sprayed elastomeric material, examiner respectfully states that the limitation of "cured...sprayed..." is treated according to the office policy set forth above; secondly, having the thickness of the panel being 100-250 would increase the protective strength of the cover as set forth above and is encouraged; thirdly, having the size for the grid would enable the easy adhesion and bonding of the elastomer to the fabric and is thus encouraged;

Art Unit: 3637

fourthly, having a fiber with tension strength of 1200 would enable the formation of a strong reinforcing panel, and is thus encouraged. The argument is thus moot.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art shows different panel attachments.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

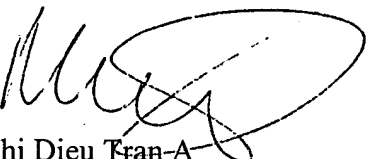
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phi D A whose telephone number is 571-272-6864. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lanna Mai can be reached on 571-272-6867. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3637

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Phi Dieu Tran-A

12/22/06